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Alberta Electric Industry

Annual Statistics for 2002

Alberta Energy and Utilities Board

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Table 1. ALBERTA ELECTRIC ENERGY CAPACITY AND GENERATION BY RESOURCE, 2002

Year / Resource type	Coal	Natural gas	Hydro	Wind	Biomass & waste	Others[1]	Total
Capacity (MW)	5658.9	4538.9	861.4	102.6	0.0	26.4	11188.2
Capacity (%)	50.58%	40.57%	7.70%	0.92%	0.00%	0.24%	100%
Generation (GWh)	42541.8	19462.1	1675.4	323.2	281.3	44.8	64328.6
Generation (%)	66.13%	30.25%	2.60%	0.50%	0.44%	0.07%	100%
Capacity factor (%)	85.82%	48.95%	22.20%	35.96%	#DIV/0!	19.37%	65.64%

[1] Others include oil, diesel, geothermal, and solar.

Table 2. ALBERTA ELECTRIC ENERGY NET INSTALLED CAPACITY (MCR MW) BY RESOURCE, 2002[1]

Resource type	Coal	Natural gas	Hydro	Wind	Biomass & waste	Others[2]	Total
Total	5658.9	4538.9	861.4	102.6	33.8	26.4	11222.0

[1] Only plants that have reported to the EUB are included.
[2] Others include oil, diesel, geothermal, and solar.

Table 3. ALBERTA ELECTRIC ENERGY GENERATION (GWh) BY RESOURCE, 2002[1]

Resource type	Coal	Natural gas	Hydro	Wind	Biomass & waste	Others[2]	Total
Total	42541.8	19462.1	1675.4	323.2	281.3	44.8	64328.6

[1] Only plants that have reported to the EUB are included.
[2] Others include oil, diesel, geothermal, and solar.

Table 4. INTERCHANGE (GWh), 2002

Interconnections	Exports	Imports	Net interchange	% of total generation
British Columbia	468.1	937.5	469.4	0.730%
Saskatchewan	105.8	245.7	139.9	0.217%
Montana	0.0	3.0	3.0	0.005%
Total	573.9	1186.2	612.3	0.952%

Table 5. ALBERTA ELECTRIC ENERGY NET INSTALLED CAPACITY (MCR MW) BY RESOURCE, 1992-2002

Year / Resource type	Coal	Natural gas	Hydro	Wind	Biomass & waste	Others[1]	Total	Annual growth rate
1993	5318.0	1924.6	819.7	11.5	-	14.6	8088.4	
1994	5704.0	1978.3	848.7	21.4	20.7	14.6	8587.7	6.173%
1995	5704.0	1982.9	848.7	21.4	20.4	12.6	8590.0	0.027%
1996	5704.0	1985.4	848.7	21.4	35.4	12.6	8607.5	0.204%
1997	5704.0	1995.9	848.7	21.4	31.4	12.6	8614.0	0.076%
1998	5621.0	2053.9	848.7	21.3	35.4	11.8	8592.1	-0.254%
1999	5621.0	2315.3	851.8	21.3	51.0	12.6	8873.0	3.269%
2000	5621.0	3071.9	864.5	78.6	30.5	25.4	9691.9	9.229%
2001	5615.0	4015.9	864.6	99.6	30.5	24.5	10650.1	9.887%
2002	5658.9	4538.9	861.4	102.6	33.8	26.4	11222.0	5.370%

[1] Others include oil, diesel, geothermal, and solar.

Table 6. ALBERTA ELECTRIC ENERGY GENERATION (GWh) BY RESOURCE AND INTERCHANGE, 1992-2002

Year	Coal	Natural gas	Hydro	Wind	Biomass & waste	Others[1]	Total	Net interchange In	Net interchange Out	Total	Annual growth rate
1993	39,187.2	7,771.6	1,799.4	1.8	-	16.5	48,776.5	-	1,599.7	47,176.8	
1994	42,269.8	8,047.4	1,771.3	35.6	16.3	16.1	52,156.5	-	2,108.6	50,047.9	6.086%
1995	42,460.8	7,219.8	2,006.5	54.3	129.3	14.3	51,885.0	-	958.9	50,926.1	1.755%
1996	41,220.3	8,228.3	1,973.4	59.1	229.8	13.0	51,723.9	1,883.8	-	53,607.7	5.266%
1997	43,054.3	8,724.6	1,830.5	62.0	232.2	26.7	53,930.3	1,039.5	-	54,969.8	2.541%
1998	41,267.7	11,467.7	2,044.6	49.4	279.1	32.1	55,140.6	768.2	-	55,908.8	1.708%
1999	40,276.7	12,126.2	2,188.2	64.6	335.5	19.7	55,010.9	999.7	-	56,010.6	0.182%
2000	40,459.2	15,219.9	1,756.3	71.8	273.8	57.0	57,838.0	360.3	-	58,198.3	3.906%
2001	41,713.3	18,792.9	1,453.3	183.1	255.2	82.0	62,479.8	-	1322.8	61,157.0	5.084%
2002	42,541.8	19,462.1	1,675.4	323.2	281.3	44.8	64,328.6	612.3	-	64,940.9	6.187%

[1] Others include oil, diesel, geothermal, and solar.

Table 7. SYSTEM LOAD OF DISTRIBUTION UTILITY OPERATORS AT PEAK LOAD HOUR: 18:00, December 3, 2002

Distribution utility operators	Load (MW)
ATCO ELECTRIC	1270.6
ENMAX	1327.0
EPCOR	1020.8
UTILICORP / AQUILA	3152.7
CITY OF LETHBRIDGE	103.9
CITY OF MEDICINE HAT	110.0
CITY OF RED DEER	102.1
POWER POOL reported a peak demand of 8570 MW[1]	

[1] Excludes Medicine Hat and exports; includes transmission losses.

Table 8. DETAILS OF NONCOINCIDENT PEAK LOAD BY DISTRIBUTION UTILITY OPERATORS FOR ALBERTA ELECTRIC SYSTEM, 2002

Distribution utility operators	Peak load (MW)	Time of occurrence
ATCO ELECTRIC	1376.1	19:00, Jan 28/02
ENMAX	1334.0	17:45, Dec 03/02
EPCOR	1095.6	16:00, Nov 7/02
UTILICORP / AQUILA	3242.8	19:00, Jan 28/02
CITY OF LETHBRIDGE	123.0	16:30, July 17/02
CITY OF MEDICINE HAT	151.6	17:00, July 17/02
CITY OF RED DEER	103.8	16:30, Dec 16/02

Table 9. TOTAL CIRCUIT KILOMETRES OF TRANSMISSION AND DISTRIBUTION LINES BY MAJOR ELECTRIC UTILITY, 2002

Utility operators	Transmission lines (over 60 kV)	Distribution lines (60 kV and below)	Total lines
ATCO ELECTRIC	8,911	58,240	67,151
ENMAX	279	6,185	6,464
EPCOR	188	4,315	4,503
TRANSALTA / ALTALINK	11,246	10	11,256
UTILICORP / AQUILA	0	94,231	94,231
City of Lethbridge	35	700	735
City of Medicine Hat	54	606	660
City of Red Deer	0	672	672
Other towns	0	376	376
Total	20,714	165,334	186,048

Table 10. CIRCUIT KILOMETRES OF TRANSMISSION AND DISTRIBUTION LINES, 1992-2002

Year	Transmission lines (over 60 kV)	Distribution lines (60 kV and below)	Total lines
1993	20,779	188,230	209,009
1994	18,920	185,987	204,907
1995	19,979	211,260	231,239
1996	20,625	230,005	250,630
1997	20,637	199,634	220,271
1998	20,327	194,992	215,319
1999	20,456	168,964	189,420
2000	20,425	162,326	182,751
2001	20,302	168,120	188,422
2002	20,714	165,334	186,048

Table 11. ELECTRIC ENERGY DISTRIBUTION SALES AND NUMBER OF CUSTOMERS, 2002[1]

Utility	Residential		Farm[2]		Commercial[3]		Industrial[4]		Total	
	GWh	No.	GWh	No.	GWh	No.	GWh	No.	GWh	No.
ATCO ELECTRIC - northern & east central Alberta	777.7	110,376	463.9	28,661	1,485.0	23,096	7,002.4	10,586	9,729	172,719
ENMAX - City of Calgary	2,243.5	328,083	-	-	4,802.4	31,859	696.5	2,043	7,742	361,985
EPCOR - City of Edmonton	1,560.9	256,195	-	-	1,314.0	31,537	3,640.2	1,596	6,515	289,328
AQUILA[5] - southern & central Alberta	2,046.2	268,733	1,234.9	49,069	2,756.0	42,698	16,704.2	22,158	22,741	382,658
City of Lethbridge	176.9	27,191	-	-	225.7	3,227.0	213.0	51	616	30,469
City of Medicine Hat	179.5	22,224	2.6	136	247.1	2,644	274.3	21	704	25,025
City of Red Deer	178.9	27,211	0.0	0.0	286.7	3,340	111.9	34	578	30,585
Other towns & villages[6]	42.1	6,542	0.0	0	54.5	1,045	7.9	19	105	7,606
Isolated plants	20.6	n/a	1.1	n/a	18.7	n/a	87.6	n/a	128.0	0
Total	7,226.3	1,046,555	1,702.5	77,866	11,190.1	139,446	28,738.0	36,508	48,856.9	1,300,375

[1] These data do not include electricity generated on site and used on site.

[2] Includes 33,980 Rural Electric Assn. (REA) customers.

[3] Includes street lighting.

[4] Includes transportation.

[5] August 2002 - Aquila Networks Canada replaced the name Utilicorp Networks Canada.

[6] Includes Cardston, Fort Macleod, Municipality of Crowsnest Pass, Ponoka.

Table 12. ELECTRIC ENERGY DISTRIBUTION SALES AND NUMBER OF CUSTOMERS, 1992- 2002[1]

	Residential		Farm[2]		Commercial[3]		Industrial[4]		Total	
Year	GWh	No.	GWh	No.	GWh	No.	GWh	No.	GWh	No.
1993	6,204.9	854,843	1,562.7	97,770	11,097.0	129,817	20,860.2	17,649	39,724.8	1,100,079
1994	6,284.8	872,722	1,666.1	93,876	11,483.0	123,974	22,530.6	29,751	41,964.5	1,120,323
1995	6,285.6	891,148	1,632.6	94,743	11,497.1	129,116	23,650.2	32,997	43,065.5	1,148,004
1996	6,562.2	922,203	1,794.5	95,403	11,903.7	136,059	24,988.5	31,531	45,248.9	1,185,196
1997	6,520.8	905,124	1,799.1	88,915	12,290.5	141,445	25,918.0	32,226	46,528.4	1,167,710
1998	6,554.8	937,510	1,709.0	77,905	12,881.7	150,244	26,497.5	33,673	47,643.0	1,199,332
1999	6,786.2	969,733	1,734.3	90,075	12,980.6	142,615	26,500.4	33,487	48,001.5	1,235,910
2000	7,134.4	1,002,007	1,811.3	71,721	12,800.6	138,419	27,847.6	33,101	49,593.9	1,245,248
2001	6,933.1	1,014,970	1,772.1	83,536	10,509.8	135,392	29,234.2	35,315	48,449.2	1,269,213
2002	7,226.3	1,046,555	1,702.5	77,866	11,190.1	139,446	28,738.0	36,508	48,856.9	1,300,375

[1] These data do not include electricity generated on site and used on site.
[2] Includes Rural Electric Assn. (REA) customers.
[3] Includes street lighting.
[4] Includes transportation.